Laboratory Profile

Architecting Lab

Associate Professor Seiko Shirasaka

Worked on space development for Mitsubishi Electric Corp. Participated in the development of the ETS-VII (engineering test satellite) and HTV (H-II transfer vehicle). In particular, was involved with the HTV project from the initial designs until the completion of the first mission. Joined Keio University in systems engineering in AY2004. Appointed to current post in AY2010. Areas of expertise: Aerospace engineering, systems engineering, computer safety

Professor Takashi Maeno

Worked as a researcher at Canon, Inc. and became a visiting industrial fellow at the University of California, Berkeley, a visiting professor at Harvard University, and a professor at the Faculty of Science and Technology at Keio University. He has been a professor of the Graduate School of System Design and Management since 2008. Areas of expertise: System design and management methodology, robotics, and science and technology studies

Overview of laboratory

The Architecting Lab is a cross-disciplinary laboratory that investigates "architecting" as a methodology for creating system structures. The methodology of architecting is used in both technology systems and social systems. By developing a theory out of the common ideas of architecting, we have a tool that can be used for the architecting of a wide range of systems. We investigate these systems in our Saturday seminars. At the laboratory, most students are doctoral candidates, but we also have new graduates and outside researchers who bring their own themes to the vigorous discussions.

Main research activities in AY2010

1 Annual theme "System Architecting of the Art"

The theme for AY2010 is "System Architecting of the Art," and we analyze the system of "art" that moves human hearts and minds from the perspective of architecture. Members use this perspective to analyze art that interests them and report on their findings. Presentations to date have included the architecture of film, the architecture of drama, the architecture of musical compositions, the architecture of haiku and the architecture of color. All have been extremely interesting analyses. While the range of topics is broad, we have been able to bring new perspectives to some of the architectural features of art such as the "relationship between tension and resolution" and "the architecture of change over time."

2 Individual research themes

In addition to the annual theme, lab members also report on architectural perspectives of their own research projects, which gives them an opportunity to actively seek out the opinions of other participants. This year, topics included the methodology for developing ultra-miniature satellites, museums, the social system and institutional design, the design of business models that utilize user requirements, and legal compliance. These discussions are fed back into individual projects and provide new impetus for further development of the topic.

3 Others

In addition, participants also gather on their own to discuss scholarly papers that interest them and architectural perspectives on social phenomena and other systems. Rather than being taught by professors, participants learn from each other through their discussions and self-driven discoveries; this cycle is what drives our seminars.

Notice New Curriculum

SDM continuously updates our curriculum in response to the demands of the times. For academic years 2011 and 2012 (AY2011 and AY2012), the Master's program curriculum has been thoroughly revised as follows.

More collaboration and fusion in education (from 2011 Spring enrollment)

In AY2011, the master curriculum in use since AY2008 has been revised. The new curriculum clarifies the relationship between systems engineering and system design and management, integrate technologies and social science, and deepen research and education.

New core subjects: Introduction to Systems Design and Management, System Architecting & Design & Integration, System Verification, and Project Management

The four new Core subjects reassign the core elements in an easy-to-understand format. All supervising professors teach more than one Core subject, which further promotes a collaborative and integrated education. These Core subjects are more closely related to Design Project: Active Learning Project Sequence (ALPS).

Subjects are no longer classified as technology or social science

The classification of subjects as either technology or social science is becoming less important as we are promoting integration of these areas. Therefore, all subjects are now classified as either required or elective subjects. Elective subjects include recommended basic subjects, recommended advanced subjects, and other elective subjects. The recommended sequence of classes has also been clarified; for example, some subjects are more appropriate for second-year students.

Fall enrollees are offered more courses in English and Spring enrollees are offered more courses in Japanese

The curriculum used from AY2008-2010 provided both Japanese and English courses to those enrolling in the spring and in the fall. However, as most international students enroll in the fall, the AY2011 Fall Schedule offers more courses in English. As most Japanese students enroll in the spring, the AY2011 Spring Schedule offers more courses in Japanese. Of course, students can take courses offered in either language in either semester.

Doctoral program for the world's most advanced research

Basically, the Doctoral program is for students who are involved in technical research. The supervising professors welcome contact from those who wish to work on advanced technical research. Our areas of interest are broad and range from science and technology to social science.

Note: The above-mentioned curriculum is subject to change. Please refer to the latest news.

▶ http://www.sdm.keio.ac.jp/en/education/curriculum2011.html

SDM Research Institute, Graduate School of System Design and Management at Keio University
Collaboration Complex, Keio University, 4-1-1 Hiyoshi, Kohoku-Ku, Yokohama, Kanagawa 223-8526
Tel：045-564-2518 Fax：045-562-3502 E-mail：sdm@info.keio.ac.jp
＊ Please put "SDM Research Institute" in the subject when communicating by fax or e-mail.

SDM System Design and Management